

Sub B3
14. (Amended) An apparatus for determining a direction or parallelism of a beam, comprising:
means for forming a beam;
means for forming an adjusted intensity profile from at least a portion of the beam at a first position;
means for detecting an intensity profile of at least a portion of the beam downstream of the first position; and
means for determining a direction or parallelism of the beam relative to a reference direction based on a position of the detected intensity profile relative to a position where the adjusted intensity profile is formed.
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15. (Amended) An apparatus for determining a direction or parallelism of a charged particle beam, comprising:
at least one detector that detects an intensity profile of at least a portion of the charged particle beam;
a beam modifier that alters an intensity profile of at least a portion of the charged particle beam upstream of the at least one detector; and
a controller that determines a direction or parallelism of the charged particle beam relative to a reference direction based on a position where the intensity profile is detected by the at least one detector and a position where the beam modifier created the detected intensity profile.

Please add new claims 23 and 24 as follows:

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23. (New) The apparatus of claim 15, wherein the at least one detector includes at least three detectors and the controller determines a direction or parallelism of the charged particle beam in three dimensions relative to the reference direction.
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24. (New) The apparatus of claim 15, wherein the direction or parallelism is determined based on detections of intensity profiles at a plurality of different positions.